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⑪ Publication number:

0 378 750  
A1

⑫

## EUROPEAN PATENT APPLICATION

⑬ Application number: 89115247.2

⑮ Int. Cl. 5: F41B 15/02, F41H 9/10

⑭ Date of filing: 18.08.89

⑯ Priority: 20.01.89 JP 12994/89

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⑰ Date of publication of application:  
25.07.90 Bulletin 90/30

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⑲ Designated Contracting States:  
DE ES FR GB IT NL SE

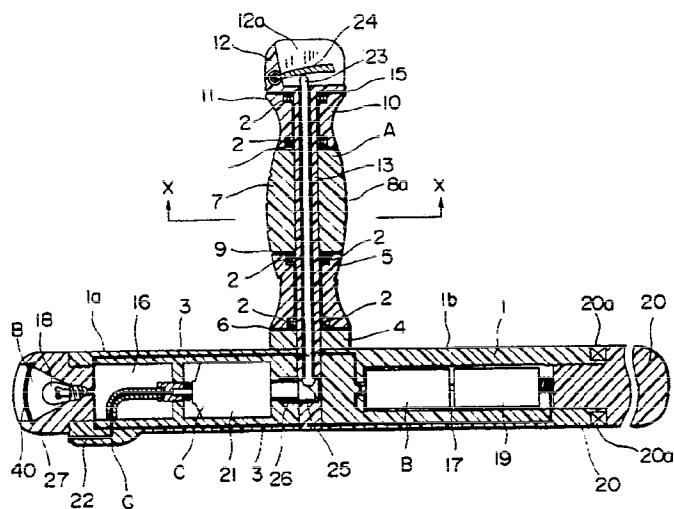
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### ④ Crosshandled guard baton (A).

⑤ A crosshandled guard baton which comprises a longitudinal club (1) and a crosshandle (A) which is branched thereon at a place toward a club end with a branching length comparable to a breadthal length of a man's hand palm and is comprised of two or three portional grip members which are laid on slidably one another to form a stand on a mounting base (4) on the club. This type of crosshandle is

reinforced in this invention with equipment of a lightening device (B) and/or a gas ejecting device (C), which are accommodated in the club interior or in the handle. Thereby, a baton carrier is convenience in an encounter with a furious assailant in a gloomy area.

FIG. 2



## CROSSHANDLED GUARD BATON (A)

This invention relates to a guard baton or police billy or the like. Particularly, this relates to a crosshandled guard baton.

The term "crosshandled guard baton" is intended to indicate a guard baton which has a short handle branchedly secured on a main club body at a biased place or midpoint between an end and a central portion of the club length. A guard baton of this type is described in US Patent 4132409 which has been only the sole conventional art according to the inventor's knowledge.

In this US patent, the handle is axially divided to two portions, stationary and rotatable, and the description therein teaches that the stationary one is put into the act when rotating or swinging of the club is intended. However, in view of the fact that it is not determinable whether the crosshandle is gripped by the right hand or the left hand of a baton user, and also probable is a change of gripping this handle from the right hand to left or vice versa. Thus, a device for braking the rotating club should be improved to be more convenient to prepare for gripping by an either hand. This was the start to reach this invention and, in addition thereto, new devices are introduced to the present inventive baton as the description herein will make them apparent in the following.

On the other hand, KARATE, a kind of sports or practice for combat without a hand weapon, has become popular in the world and such a combat practice is sometimes used by an assailant to the police or security personnel and therefore, those who are entitled to wear such a guard property as a baton are desirous that their guard property be improved, in particular, be improved so as to realize KARATE actions in enlarged scale, to which purpose a rotatable crosshandled baton is basically appropriate and improvement in the braking device with a guard baton is found to be suited, because in KARATE techniques wielding of two hands is important, but at the same time, quick stop of a hand action is necessary to make use of the foot to kick or to add an attack by footwork.

In connection with the crosshandled guard batons, patent applications have been filed by the present inventor with the following identifications: EP 89 103 106.4 and EP 0331035

In contrast to these previous inventions, this invention makes improvement relative to a gas ejecting device as well as a lightening device as will be apparent later.

This invention is generally summarized as featuring a crosshandled guard baton which comprises a club having a longitudinal axis and a crosshandle transversely branched on the club at a biased

place toward a club end, wherein the crosshandle (the term "crosshandle" will often be abbreviated to "handle" in the following) has a branching length comparable to a breadthal length of a man's hand palm and is typically defined by three portional members of a lower grip, central grip and upper grip which are laid on one another to form a stand on a mounting base formed on the club, and internally of the handle, a longitudinal shaft, typically in the form of a tube, is secured on the mounting base and is extended to reach through an outer end of the upper grip, and the shaft is rotatably supported with the lower and upper grips while the central grip is fastened to the shaft such that the club is turnable around the handle with a concurrent motion of the central grip, hence keeping the lower and upper ones in independence of the motion with the club and central grip. Furhter, the handle is modified to dispense with the rotatable lower grip from the rest of the members defining the handle.

Further, the present invention is particularly directed to the guard batons in equipment of a lightening device and also a gas ejecting device as functional addition.

Conventionally, these two kinds of functional devices have not been incorporated in a police billy, the person should carry a pocket light, for instance, as another hand property, which situation has inevitably caused some inconvenience in taking actions, especially, in a gloomy area or in an encounter with a furious assailant.

Fig. 1 shows a perspective view of an inventive embodiment.

Fig. 2 shows a vertical view in section of the embodiment of Fig. 1.

Fig. 3 shows a sectional view as seen along a line X - X indicated in Fig. 2.

Fig. 4 shows a vertical view in section of another embodiment.

Fig. 5 shows a vertical view, partly in section, of an embodiment featuring in equipment of a gas ejecting device in a club.

Fig. 6 shows a vertical view, partly in section or enlarged to advantage, of still another embodiment featuring in equipment of a lightening device in a club.

Fig. 7 shows a vertical view in section of still further another embodiment.

Fig. 8 shows a vertical view, partly in section, of still further another embodiment.

These drawings are presented to illustrate the invention and therefore these should not be construed as limiting the invention. And in the drawings a like numeral indicates a like part, and a

length of the club is sometimes shortened out of scale without a cut mark and such should not be construed to destroy the invention.

With reference to Figs. 1 and 3, 1 is a club which is made of a hard material, for instance, or wood, metal or plastic and, in the case of a plastic, it is recommended to reinforce it with tough aramid fibers, for instance, Kevlar (brandname), by interlacing such fibers in plastic layers with orientation to an longitudinal axis of the club 1. Size of a club 1 is preferably about 60 cm in length and about 3 cm in diameter.

A handle A is transversely branched at a place toward an end of the club 1, wherein a mounting base or saddle base 4 is formed to offer a flat face at the place as mentioned, on which laid first is a lower grip member 5 which is shaped to be a round brick, wherein a contact plane of the lower grip 5 to the base 4 is formed to make a slide contact plane 6, of which function will appear later. Then, a central grip member 7 is laid on the grip member 5 to form a similar slide contact plane 9 inbetween and thereafter an upper grip member 10 is laid on the central one 7 likewise to form a slide contact plane 14 inbetween, thereto another upper grip or cap 12 is fitted over on top, but between members 10 and 12 still another slide plane 15 is made. These members after assembly as shown in the drawings will be applied to a gripping, size of which is therefore preferably about 11 cm long and diameter of the cap member 12 is about 3.5 cm, wherein assembled grip members as a whole are, as shown in the drawings, preferably shaped to take an appearance like a bowling pin, convenient to a hand-gripping. In other words, round side faces of the lower grip 5 and upper grip 10 are squeezed to recurve such that an angular corner 11 is formed and a similar side of the central grip is made like a barrel flank, and further an outside shape of the handle may be varied from a circle in section, for instance, to be elliptic in section for more convenience to the handgrip as shown by the numeral 7 in Fig. 3.

Making reference to internal structures, a tube shaft 13 is provided longitudinally of the handle A and has its footing end secured in the club 1, penetrating through the base 4, and the shaft 13 is extended upwardly to reach a top end of the grip 10 to integrate or combine with the cap member 12 as shown in Fig. 2, wherein the shaft 13 is rotatably supported with ball bearings 2, 2, for the lower grip 5 and the same 2, 2, for the upper grip 10, while the shaft 13 is fastened with the central grip 8 (see Fig. 3. It shows the shaft 13 in square section, at X - X line in Fig. 2).

The structure as noted is annotated here to explain functions in the invention. That is, "rotatably supported" means that, when a rotatably

supported grip is firmly held externally, the grip member held externally remains stationary while internally the shaft 13 is let move or turn, and as will be apparent later, in use, two grip members of the lower and upper are recommended to be held by the hand palm while the central grip is let free to turn with the club. and, when the turning club is intended to stop, a touch onto the central grip is used to effect the braking action. Therefore, several lateral grooves 8a are provided around the central grip 7 to enhance friction against the hand palm.

The cap 12 is mounted on the upper grip 10 and internally, for the whole length of the tube shaft 13, a trigger rod 23 is sheathed with up-down mobility, and its top end is kept to be a slightly headed above a bottom face of the recess 12a formed in the cap 12 and is in contact with a lever 24 which is pivoted on a side wall of the recess 12a.

Making reference to internal structure of the club 1, longitudinally thereof, two hollow spaces are formed internally of the club segment 1a having a shorter range from the base 4 and of the club segment 1b having a longer range from the base 4. And these two spaces 16, 17 are utilized to accommodate one or two functional devices, a lightening device B and/or a gas ejecting device C.

Fig. 2 shows an embodiment wherein a lightening device B and a gas ejecting device C are accommodated. Specifically, in the space 16, a gas bomb 21 is inset and its ejecting pipe 22 is led from the bomb front outwardly to an underside of the club 1 to end an opening 22 and at the bomb rear side, a ram having a beveled face 25 is mounted with urging action of a spring 26 and a bottom end of the trigger rod 23 is contacted with the beveled face 25 such that an act on the lever 24 will effect a stroke to the ram 25 which will cause a gas ejection. In the space 17, battery units 19 are inset and connected by a line 3 to a lamp 18 which is mounted in a plug tip 27 with a lens winder 40 and an on-off act for lighting is effected by a push at a rear side of the battery unit 19. Specifically, outer portion of the club segment 1b is formed of a plug 20, which is screw-engaged with the rest of the segment 1b, and an elastic packing 20a is incorporated, by which compressibility the on-off act of the battery 19 is effected.

In the following descriptions to explain new embodiments, explanations will concentrate to new devices and functions which have not yet been described, with abbreviation for repeated description.

With reference to Fig. 4, this embodiment is simplified, firstly, in construction of the handle A, by removing a lower grip member so as to define the handle A with two member of a main grip 8 and an upper grip 10, wherein the main grip 8 is

integrated with a base 4 so as to do the same motions with the club 1, and the upper grip 10 is maintained to be rotatable. Further, secondly the on-off act for lighting is designed to effect by a switch 41 which is provided on the club 1 close to the base 4.

With reference to Fig. 4, in this embodiment, a hollow space is only formed inside the segment 1a wherein a gas ejecting device is accommodated. A gas ejecting pipe 22 is made feedthrough a plug 27 to open at the end of the plug 27.

With reference to Fig. 6, two spaces 16, 17 are formed, but one space 16 is utilized to equip a lightening device B wherein, although the trigger rod 23 is apparent in minor portion, an on-off act for lighting is designed to perform by contact of a bottom end 29 of the rod 23 onto a contact element 31 involved in a line 3, wherein lower portion of the rod 23 is provided with a slenderized step 28 which is wound around by a spring 30 which will recoil back the rod 23 upwardly. 7a is a crossmesh pattern which is formed on the central grip 7 to avoid slippage against the hand.

With reference to Fig. 7, a lightening device B is accommodated in a space 16 and a gas ejecting device C is inset in a handle A and a tube and a sheathed rod as noted before are eliminated. In the place, a stud pin 33 is driven across the club 1 into a backbone portion 32 of the handle A to secure the handle A as a whole to the club 1, which permits concurrent motions of the club 1 with the central grip 7 as described before.

A gas bomb 21 is inset vertical in a space 34 formed in upper portion of the handle A and the inset bomb 21 is sealed with a plug 35 by screw engagement wherein a gas pipe 22 is extended from the bomb 21 upward through the plug 35 and a top end of the pipe 22 is positioned closely below a lever 38 which will act a gas ejection by pressing the pipe end. Then, a gas is let off across, like in the case of a can-spray, toward outside via a hole 43 which is provided a side wall of a recess 12a. In order to protect the lever 38, a pivotal lid 39 is mounted on the cap 12. Then, 42 is a device to resist a play move of the bomb 21 while inset there and 44 is a hole for externally refilling the gas from an opening 45.

With reference to Fig. 8, assembling of a handle A is modified such that a backbone member 32 is preliminarily assembled with a stud pin 33 and a lower grip 5 and then this assembled block is secured on a base 4 with fastening the stud 33 into a club 1 by screw engagement. And referring to around a gas bomb 21, an attachment member 36 is fitted on an upper end of the member 7 and also on a cap 12, wherein the member 36 is designed to engage with a clamp piece 35a which will resist a play move of the bomb 21.

## Claims

1. A crosshandled guard baton which comprises:  
5 a club (1);  
a crosshandle (A) branched on the club at a place toward a club end and having a branching length comparable to a breadthal length of a man's hand palm;  
10 the crosshandle comprising three portional members of a lower grip (5), a central grip (7), and an upper grip (10) which are slidably laid on one another with a slide plane (6, 9, 14) in between to form a stand on a mounting base (4) on the club; wherein, internally of the crosshandle, a tube shaft 13 having a recessed cap member (12) at its top is feedthrough to be secured at its bottom to the club and is supported around rotatably with the upper and lower grips and, internally of the tube shaft, a rod (23) having operative connection with a lever (24) at its top and a ram (25) at its bottom is sheathed with up-down mobility; said club comprising, longitudinally and internally of the club, one or two hollow spaces (16, 17) separated at the mounting base; wherein at least one of a lightening device (B) and a gas ejecting device (C) is accommodated in the hollow space (16, 17); and wherein a trigger means for activating the device (B or C) accommodated in the hollow space (16 or 17) is provided in operative connection comprising the lever mounted in a recess (12a) formed in the cap member, the rod, and the ram.
2. A crosshandled guard baton which comprises:  
35 a club (1);  
a crosshandle (A) branched on the club at a place toward a club end and having a branching length comparable to a breadthal length of a man's hand palm;  
40 the crosshandle comprising two portional members of a main grip (8) and upper grip (10) which are slidably laid on each other with a slide plane (14, 15) in between to form a stand on a mounting base (4) on the club; wherein, internally of the crosshandle, a tube shaft having a recessed cap member (12) at its top is feedthrough to be secured at its bottom to the club and is supported around rotatably with the upper grip and, internally of the tube shaft, a rod (23) having operative connection with a lever (24) at its top and a ram (25) at its bottom is sheathed with up-down mobility; said club comprising, longitudinally and internally of the club, one or two hollow spaces (16, 17) separated at the mounting base; wherein at least one of a lightening device (B) and a gas ejecting device (C) is accommodated in the hollow space (16, 17);

and wherein a trigger means for activating the device (B or C) accommodated in the hollow space (16, 17) is provided in operative connection comprising the lever mounted in a recess (12a) formed in the cap member, the rod, and the ram.

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3. A crosshandled guard baton as defined in claim 1 or 2, wherein a gas bomb (21) comprised in the gas ejecting device (C) is operatively connected with the ram (25), of which an end is formed to be a beveled face.

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4. A crosshandled guard baton as defined in claim 1 or 2, wherein a lamp (18) comprised in the lightening device (B) is fitted in an end of the club (1) and is lead-connected for a lighting means.

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5. A crosshandled guard baton as defined in claim 1 or 2, wherein the ram (25) has a slenderized portion, around which a spring (26) is wound to reinforce a recoiling action thereof.

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6. A crosshandled guard baton as defined in claim 1 or 2, wherein a plug (20) is fitted in an opening formed at an end of the club (1).

7. A crosshandled guard baton which comprises:

a club (1);

25

a crosshandle (A) branched on the club at a place toward a club end and having a branching length comparable to a breadthal length of a man's hand palm;

30

the crosshandle comprising a plurality of portional members which are slidably laid on each other with a slide plane (14, 15) in between to form a stand on a mounting base (4) on the club such that the club is turnable around the crosshandle;

35

wherein, internally of the crosshandle, a gas bomb (21) of a gas ejecting device (C) is accommodated with its bomb pipe (22) being on top and positioned in a recess (12a) formed in a cap member (12) which is integrally connected with a top portion of the crosshandle, and wherein the pipe (22) is operatively connected with a lever (38) mounted in the recess (12a) such that an act of the lever onto the pipe ejects gas, and a gas ejecting hole (43) is formed across the recess wall such that the ejected gas is let off externally therethrough.

40

8. A crosshandled guard baton as defined in claim 7, wherein the bomb (21) is clamped to direct the pipe (22) to eject gas toward the hole (43) formed in the recess (12a).

45

9. A crosshandled guard baton as defined in claim 7, wherein the bomb (21) is disposed to have a refill through a hole (45) formed on a face of the crosshandle (A).

50

10. A crosshandled guard baton as defined in claim 7, wherein the recess (12a) is covered with a lid (39) to enclose the recess space.

55

11. A crosshandled guard baton as defined in claim 7, wherein a lightening device (B) is accommodated in a hollow space (16 or 17) of the club.

# FIG. I

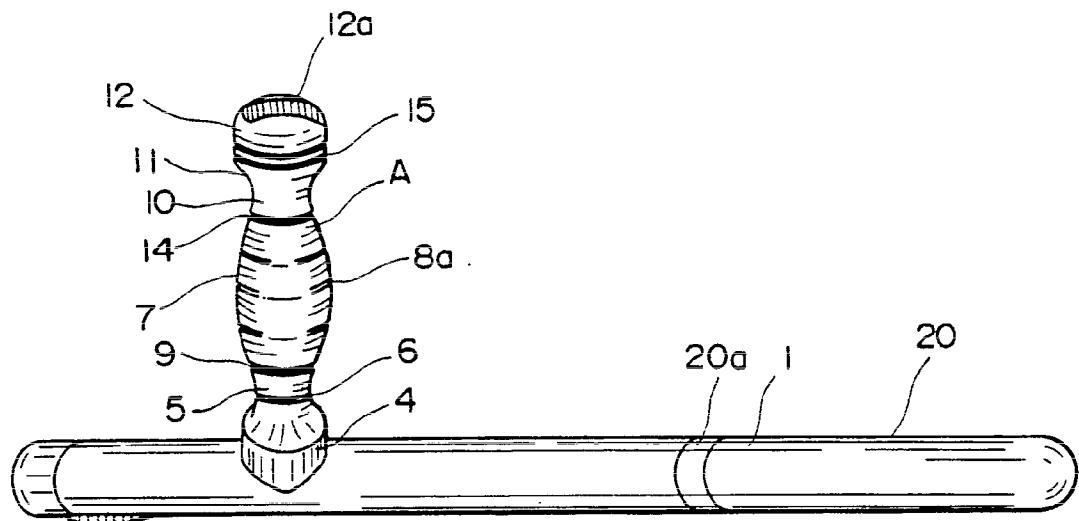


FIG. 2

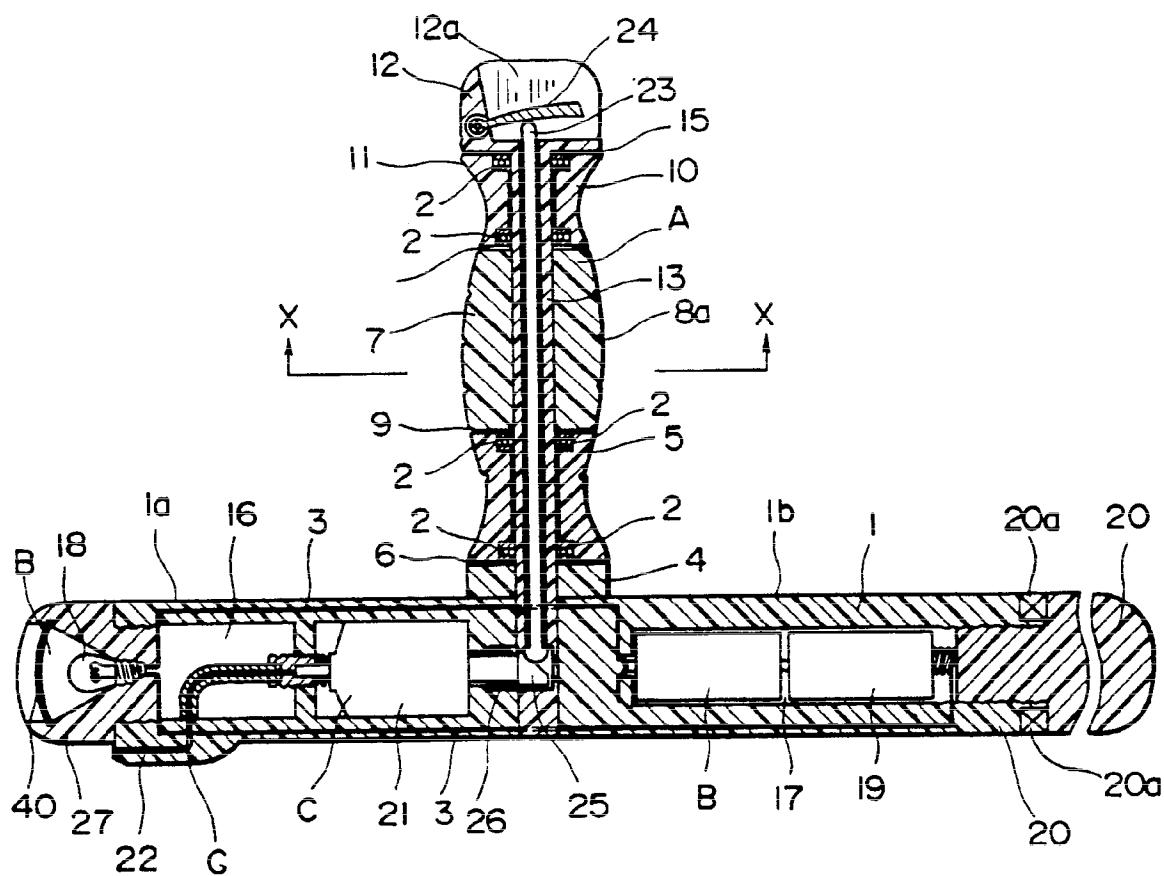


FIG. 3

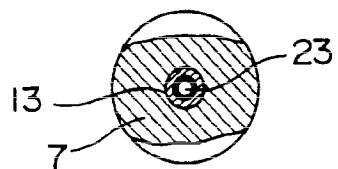


FIG. 4

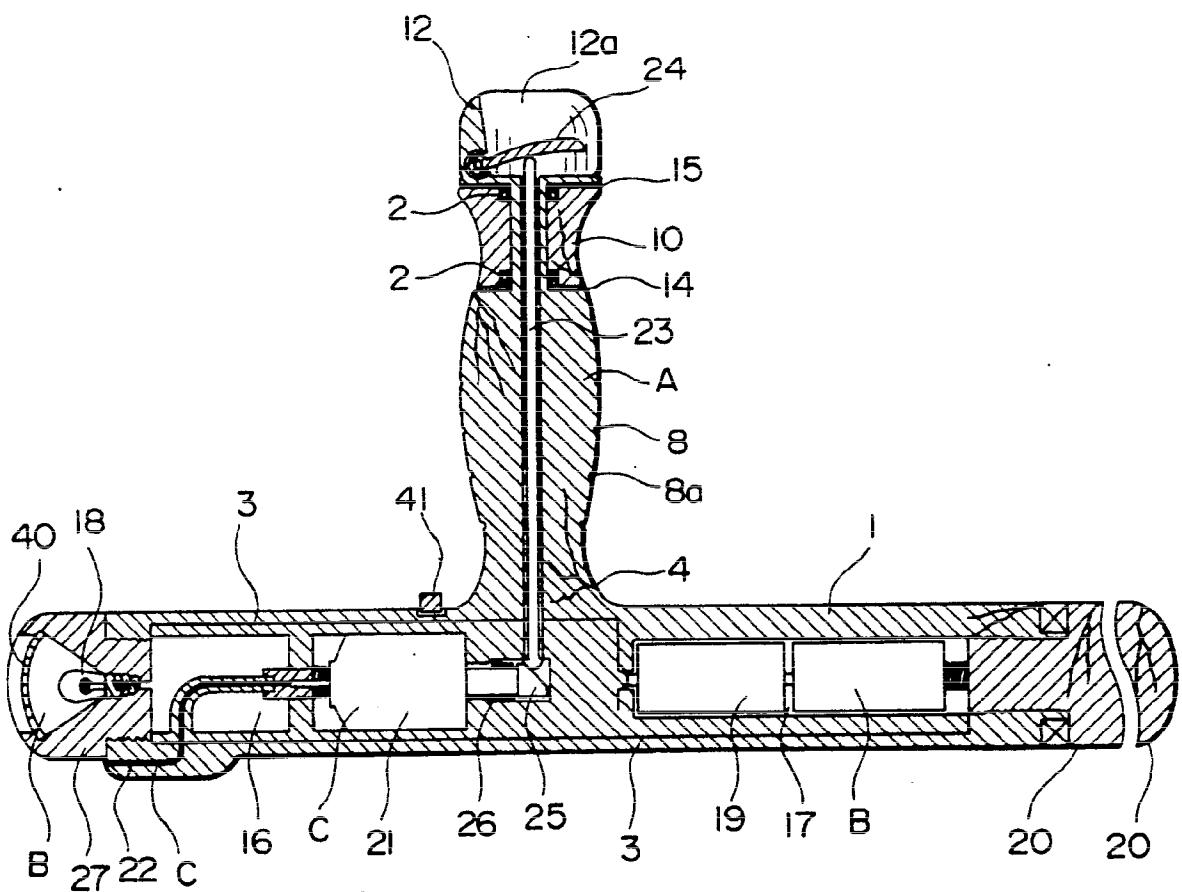


FIG. 5

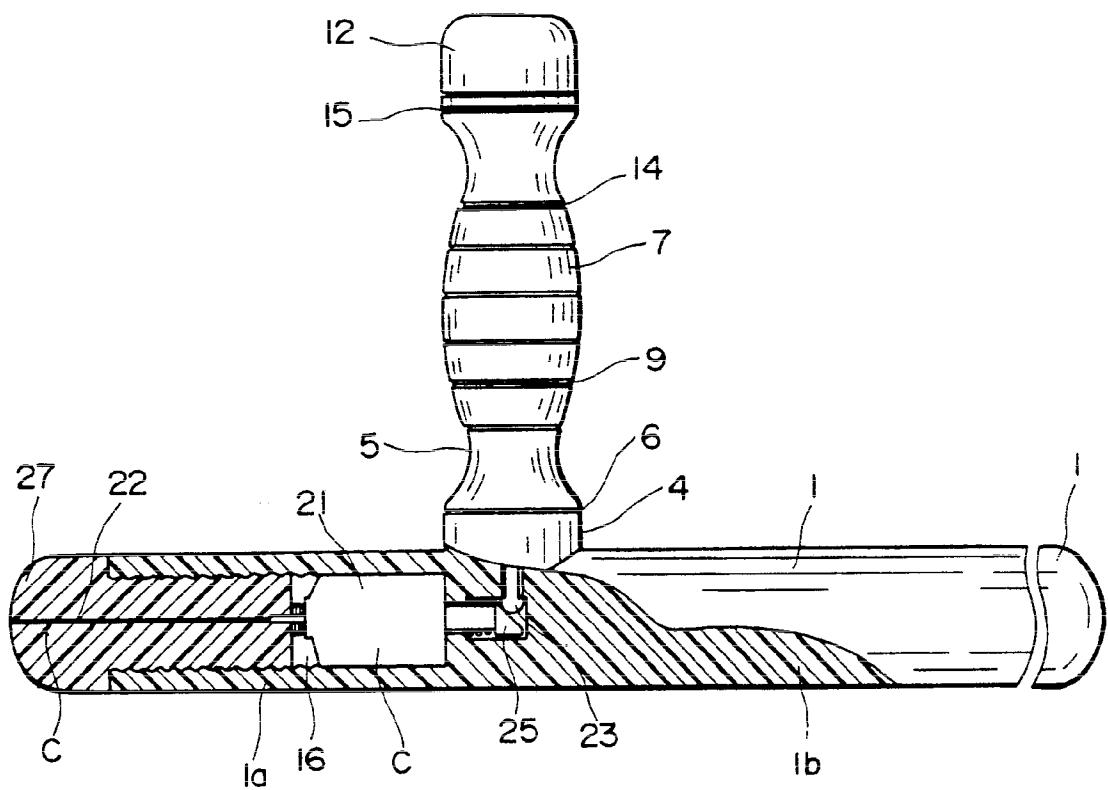


FIG. 6

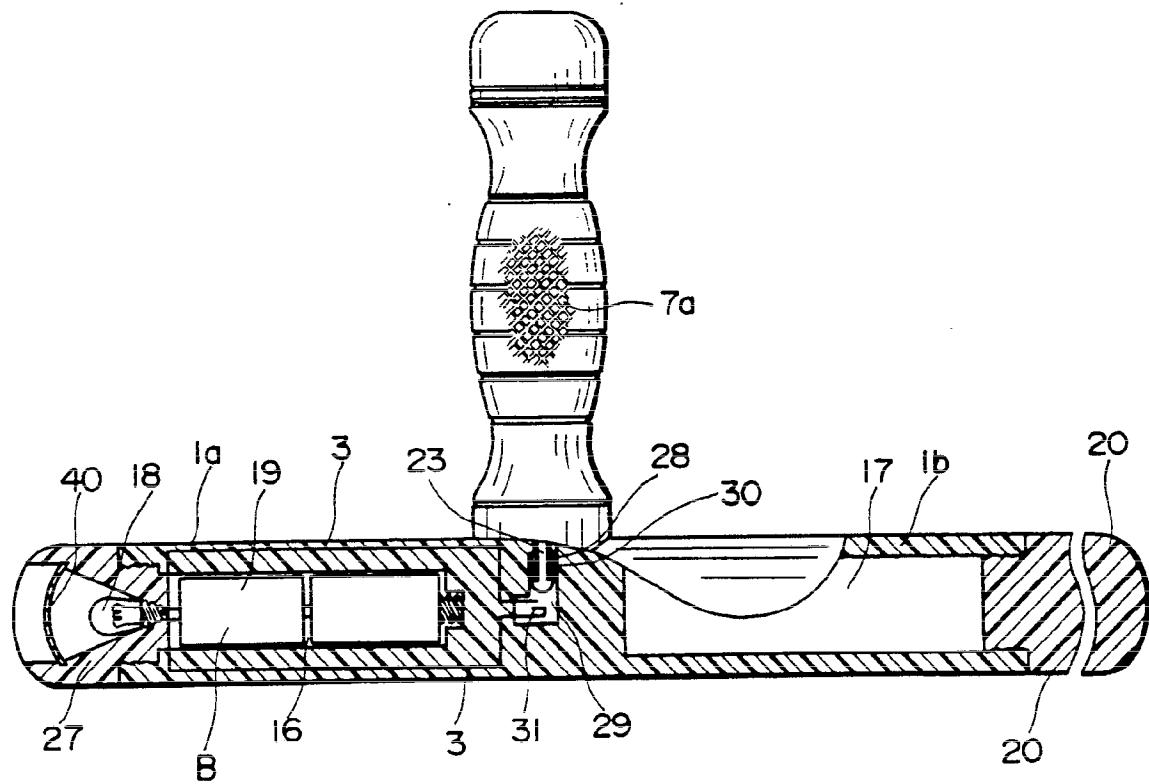


FIG. 7

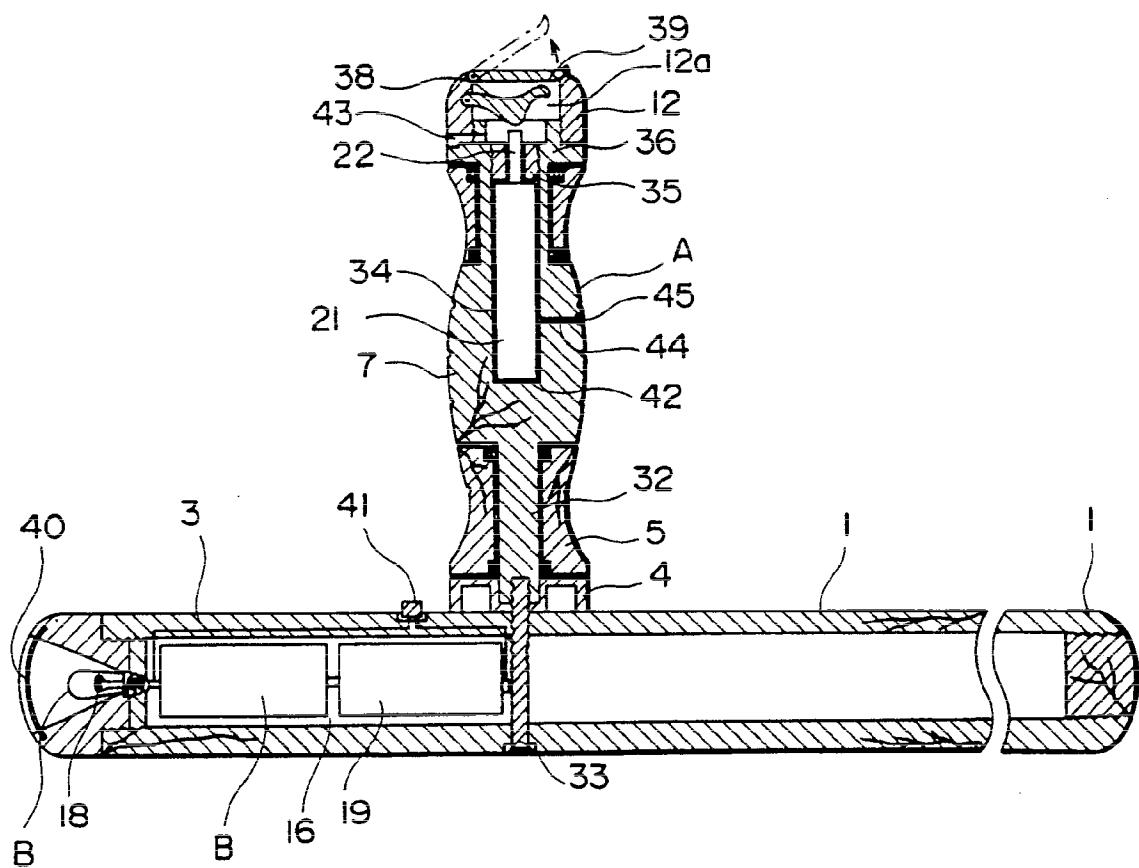
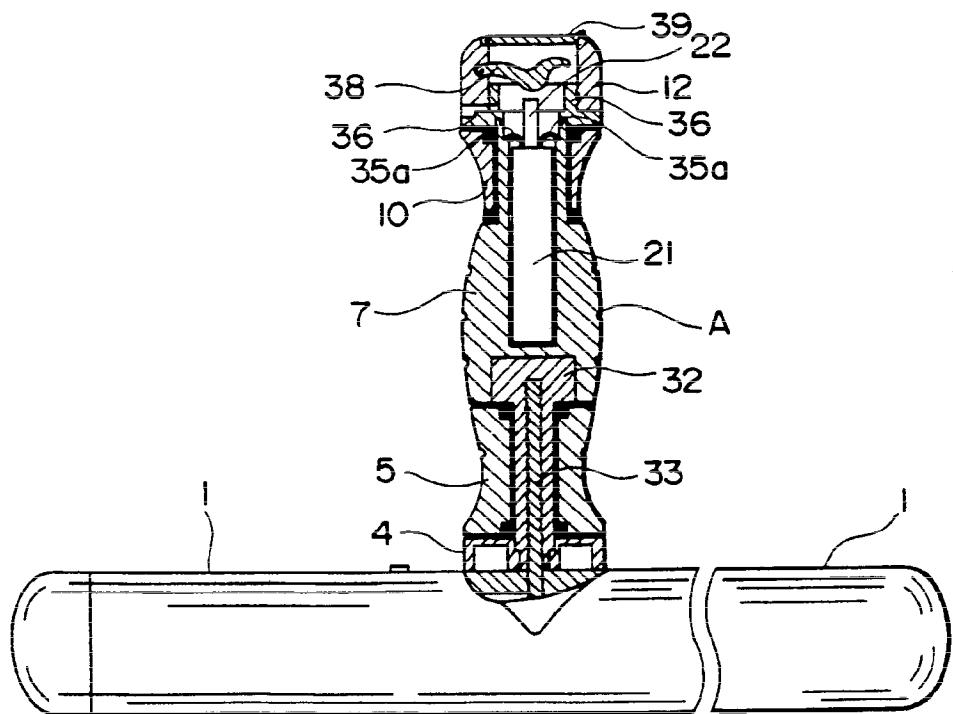


FIG. 8





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 479 171 (MAINS) * Whole document * ---	1,2,4,7 ,11	F 41 B 15/02 F 41 H 9/10
A	US-A-3 776 429 (DeLUCIA) * Column 2, lines 14-68; column 3, lines 1-61; column 4, lines 1-26; figure 1 * ---	1-3	
A	FR-A-1 287 775 (POL) * Page 1, left-hand column, paragraph 8; figures 2,4 * ---	6	
A	FR-A-2 142 575 (ABRANSON, PURORGE & Cie) * Page 1; lines 17-37; page 2, lines 1-38; figures 1,2 * ---	7,8,10	
A	FR-A-2 219 082 (CONSUPAK) * Page 2, lines 14-30; figures 1,2 * -----	7,8,10	
TECHNICAL FIELDS SEARCHED (Int. Cl.5)			
F 41 B F 41 H			
The present search report has been drawn up for all claims			
Place of search  THE HAGUE	Date of completion of the search  17-11-1989	Examiner  TRIANTAPHILLOU P.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			